UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,156	01/31/2001	Wilhelmus Hendrikus Alfonsus Bruls	PHNL 000031	8179

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EXAMINER
WONG, ALLEN C

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	**Applicant(s)**
		09/773,156	BRULS ET AL.
Office Action Summary		**Examiner**	**Art Unit**	
		Allen Wong	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 November 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

    1.☒ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 11/2/04 have been fully read and considered but they are not persuasive.

Regarding lines 1-2 on page 8 of applicant's arguments about claim 1, applicant asserts that Yonemitsu fails to disclose "storing said two reference images with the second resolution in said memory". The examiner respectfully disagrees. Yonemitsu's element 121 of fig.20 is a memory for storing reference images in second resolution mode (note the term ¼ resolution frame memory for element 121 is the second resolution, whereas element 63 is a memory used for full-resolution frames, ie. the first resolution), since the memory is used to store at least two images such as two reference images for later use such as applying the reference frames for predicting the following frame in a cyclical, recursive image coding process. Thus, Yonemitsu discloses the limitation "storing said two reference images with the second resolution in said memory".

Dependent claims 2-5 are rejected for the same reasons as discussed above for claim 1.

Independent claim 6 is rejected for the same reasons as independent claim 1.

Dependent claims 7-10 are rejected for the same reasons as claim 6, as stated above.

Independent claims 11 and 12 are rejected for the same reasons as claims 1 and 6.

Thus, the rejection of claims 1-12 is maintained.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by

Yonemitsu (5,485,279).

Regarding claims 1 and 6, Yonemitsu discloses a method and video encoder for

encoding images in a first resolution mode with reference to a reference image having

said first resolution (fig.20 is a video encoder that encodes images in MPEG standard

including I, P and B images with a first resolution, where I and P frames are reference

images), the encoder comprising a memory having the capacity for storing said

reference image with said first resolution (fig.20, element 63 is a memory for storing

reference image in first resolution mode); and control means for selectably encoding

said images in a second, lower resolution mode with reference to two reference images

having said second resolution (fig.20, element 54 controls the image prediction

encoding mode), and for storing said two reference images with the second resolution

in said memory (fig.20, element 121 is a memory for storing reference images in

second resolution mode).

Regarding claims 2 and 7, Yonemitsu discloses further including a motion

estimation circuit applying a predetermined search strategy in the first resolution mode

to search motion vectors representing motion between an input image and the

reference image, said motion estimation circuit being arranged to apply said search

strategy in the second resolution mode to both reference images (fig.20, element 64 is

the motion estimation/compensation circuit that applies a search strategy in the first

resolution mode and also note there is an arrow that directs the motion estimation

circuit to apply the search strategy in the second resolution mode to elements 123 and

then to element 122).

Regarding claims 3 and 8, Yonemitsu discloses wherein selected images are

encoded in the second resolution mode with respect to one of said reference images,

the motion estimation circuit being arranged to apply the search strategy in a first pass

to search motion vectors with a first precision (fig.20, element 64 is the motion

estimation/compensation circuit that applies a search strategy in the first resolution

mode and also note there is an arrow that directs the motion estimation circuit to apply

the search strategy in the second resolution mode to elements 123 and then to

element 122 for searching motion vectors with a first precision), and to apply said

search strategy in a second pass to refine the precision of the motion vectors found in

the first pass (fig.20, note output of element 122 goes back to the DCT 164 for a

second pass to refine the precision of the motion vectors found in the first pass).

Regarding claims 4 and 9, Yonemitsu discloses further arranged to selectably

encode images in a third, yet lower resolution mode with reference to two reference

images having said third resolution, said motion estimation circuit being arranged to

apply said search strategy in the third resolution mode to both reference images, and

to apply the search strategy for each reference image in a first pass to search motion

vectors with a first precision (fig.20, element 202 is the motion

estimation/compensation circuit that applies the search strategy in the third resolution

mode to the reference images and also note there is an arrow that directs the motion

estimation circuit to apply the search strategy in the third resolution mode to elements

204 and then to element 202 for searching motion vectors with a first precision), and to

apply said search strategy in a second pass to refine the precision of the motion

vectors found in the first pass (fig.20, note output of element 202 goes back to the DCT

203 for a second pass to refine the precision of the motion vectors found in the first

pass).

Regarding claims 5 and 10, Yonemitsu discloses wherein said reference image

having the first resolution is a previous image of a sequence of images (fig.20, note the

reference image of a sequence of images stored in element 63 is in the first resolution),

one of the reference images having the second resolution is a previous image of said

sequence, and the other one of the reference images having the second resolution is a

subsequent image of said sequence (fig.20, note the reference images of a sequence

of images stored in element 124 is in the second resolution).

Regarding claims 11 and 12, Yonemitsu discloses a method and video decoder

for decoding images in a first resolution mode with reference to a reference image

having said first resolution (fig.21 performs the decoding operation of fig.20; also, fig.21

is a video decoder that decodes images in MPEG standard including I, P and B images with a first resolution, where I and P frames are reference images), the decoder comprising a memory having the capacity for storing said reference image with said first resolution (fig.21, element 75 is a memory for storing reference image in first resolution mode), characterized in that the video decoder comprises control means for decoding said images in a second, lower resolution mode with reference to two reference images having said second resolution (fig.21, note the IVLC 141 decodes prediction mode, motion vector, and quantization scale information, coded from control means of fig.20, for decoding the reference images in the second, lower resolution mode), and for storing said two reference images with the second resolution in said memory (fig.21, element 85 stores reference images in the second resolution).

Conclusion

3.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Allen Wong whose telephone number is (571) 272-7341.

The examiner can normally be reached on Mondays to Thursdays from 8am-6pm

Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Allen   Wong
Examiner
Art Unit 2613

AW
3/31/05